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LOUISIANA Conservationist

September/October 1987

J. Burton Angelle Sr., *Secretary*

LOUISIANA SPORTSMEN are faced this fall with two of the biggest changes to impact them in quite some time.

It has been my experience that a great many people have trouble dealing with change.

People like the status quo. This I suspect arises from a fear of the unknown and manifests itself from our early childhood. For a child, a change of school or houses or numerous other things can be devastating. With adults, I suspect the fear aspect of resisting change gradually gives way to plain old stubbornness.

I have also found it generally to be true that when we look back at a change some years afterwards, in retrospect it seldom appears near as menacing.

I suspect that both these factors will play a role in how Louisiana sportsmen react to the impending changes.

Mandatory use of steel shot for waterfowl hunting is here. As detailed elsewhere in this issue, beginning with this September's special teal season waterfowl hunters in 24 parishes are required to use non-toxic shot.

The remaining parishes will be phased in over the next few years until the 1991 season when steel shot for waterfowl will be the law statewide.

I am certain the same debates that have been raging for some time now over performance, costs and other more suitable alternatives will not simply disappear. But those debates aside, non-toxic shot is now the law in much of Louisiana.

The second change to which I alluded earlier is a minimum size length on speckled trout and redfish taken by sportsmen.

In effect as of September 1, Louisiana sport fishermen must now release any speckled trout under 12 inches in length and any redfish under 14 inches long. The minimum allowable size for redfish will increase to 15 inches in 1988 and 16 inches in 1989 and thereafter. This too is explained in greater detail later in this issue.

Also, all saltwater finfish must now have the head and tail intact until brought ashore. This was necessary to make length regulations enforceable and means it is now illegal to fillet saltwater finfish while they are still on the boat.

I anticipate that there are basically three ways sportsmen will react to these changes. By their reactions, I will divide them into groups.

The first group is comprised of those individuals who will simply ignore them. These are the folks who will make it hard for our agents in the field who are charged with enforcing our fish and wildlife laws. Also included among this group are the complainers–those folks who will raise unmitigated hell with the gentlemen, both on the Wildlife and Fisheries Commission and in the Legislature, who were forced into making these difficult decisions.

Grumblers make up the second group. Unlike individuals in group one, grumblers will, for the most part, comply. They just plan to gripe and grumble about it. Second guessers make good grumblers. "They should have done this," or "if only they would have done that," are phrases frequently heard from members of group two.

The final group is those who comply, and do so diligently and without fanfare. They may not agree with everything. They may not like the timetable. They may even be planning to work within the system to make changes. But, they are willing to give it a chance.

A majority of the "thankful" folks can also be found within the ranks of group three. Often labeled optimists, these individuals look at the bright side. They are thankful for what they have and willing to accept change, even to extent of sacrifice, for the benefit of the whole and for future generations.

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Getting the Lead Out

**By Robert Helm, Waterfowl Study Leader
and Dave Morrison, Asst. P-R Coordinator**

Beginning with the September Teal Season, waterfowl hunters in twenty four parishes will be prohibited by federal regulations from using shotgun shells containing lead pellets.

IT CAME AS NO SURPRISE to sportsman when the Louisiana Wildlife and Fisheries Commission adopted a resolution on June 5, 1987 to allow the implementation and enforcement of non-toxic steel shot zones for all waterfowl hunting (ducks, geese and coots). The U.S. Fish and Wildlife Service had threatened to close waterfowl hunting areas unless the Commission agreed to the steel shot implementation. Beginning with the September Teal Season, waterfowl hunters in twenty four parishes (see map and parish listing) will be prohibited by federal regulations from using shotgun shells containing lead pellets. Those parishes, comprising the entire coastal marsh and other popular waterfowling areas throughout the state, represent the state's most heavily hunted waterfowl areas and account for about 86 percent of Louisiana's annual waterfowl harvest.

The conversion schedule is based on the annual waterfowl harvest in each parish as determined by U.S. Fish and Wildlife Service wing receipts for the ten-year period spanning 1971-80. Those parishes converting this year have had a harvest rate of 20 or more waterfowl per square mile. The remaining parishes in the state will be phased in through 1991 when the entire state and country will use steel shot exclusively for waterfowl hunting.

Lead is a long-lasting toxic substance that is currently being removed from our gasoline and paint and now, finally, from our irreplaceable wetlands. It is estimated that, in Louisiana alone, some 400 tons of lead pellets are deposited in waterfowl hunting areas each year. Waterfowl populations, already on a decrease, are being exposed to more and more lead pellets concentrated in smaller and smaller feeding areas as our wetlands base has deteriorated.

Lead poisoning in waterfowl as a result of spent shotgun pellets has been a recognized problem since the late 1800s. Waterfowl mistakenly ingest spent lead pellets while feeding. The grinding action of the gizzard and digestive juices reduce the pellets into lead salts which are absorbed into the blood stream. Complete paralysis of the digestive system results and the birds literally starve to death. The entire process may take three weeks and is accompanied by a 30-40 percent reduction from normal body weight.

There remains, however, a cloud of controversy concerning the suitability of steel shot as the best non-toxic pellet material. Extensive research has been conducted to develop a non-toxic shot that is both economical to produce and ballistically acceptable. At the present time, soft steel shot is the only alternative yet developed which has met the combination of requirements.

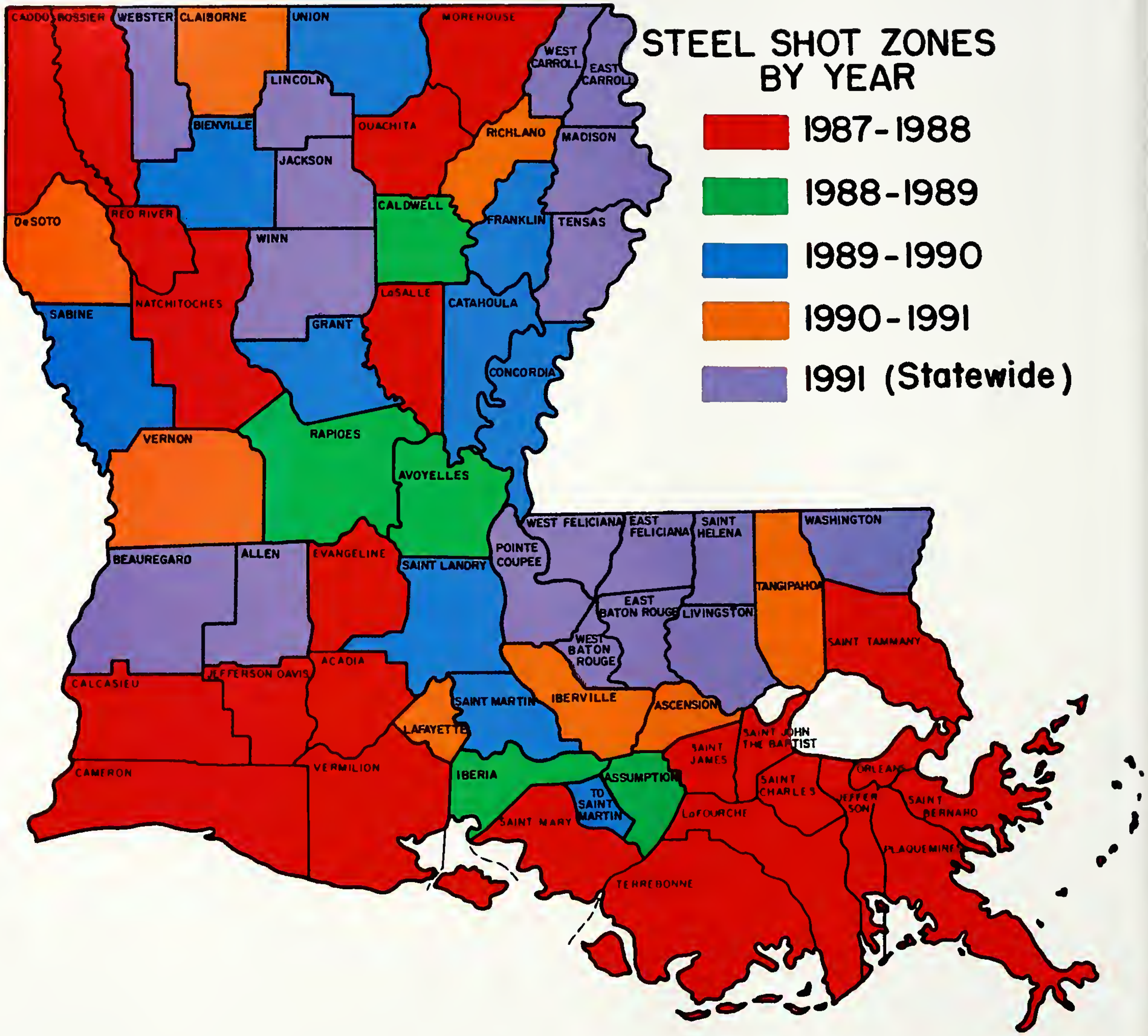
Steel shot has been much maligned over the previous decade and most authorities admit that the initial offerings in steel shot loads were far from adequate. Concerns about possible shotgun damage, patterning and "knockdown" ability, many arising from hunter's experiences with those initial steel shot offerings, are often voiced today.

Ammunition manufacturers and pellet manufacturers have, however, made great progress since those first steel shot loads were developed twenty years ago. Hopefully, the following information will quell any undue concerns today's waterfowl hunters may have.

Shotgun manufacturers state that most modern shotguns will withstand the increased pressures produced by steel shot loads without damaging the firearm. Caution should be exercised with regard to older shotguns and some modern, foreign-made guns. These guns may have softer steel and possibly thin-walled barrels and may not be constructed to withstand the pressures generated by steel shot loads. Concerns about specific makes and models of shotguns should be discussed with the dealer or, preferably, with the manufacturer.

VOLUMETRICALLY EQUIVALENT STEEL AND LEAD LOADS

Steel		Lead
1/2 Oz.	=	3/4 Oz.
5/8 Oz.	=	7/8 Oz.
3/4 Oz.	=	1 Oz.
7/8 Oz.	=	1 1/4 Oz.
1 Oz.	=	1 3/8 Oz.
1 1/8 Oz.	=	1 1/2+ Oz.
1 1/4 Oz.	=	1 3/4 Oz.
1 3/8 Oz.	=	1 7/8 Oz.
1 1/2 Oz.	=	2 1/8 Oz.
1 5/8 Oz.	=	2 1/4+ Oz.
1 3/4 Oz.	=	2 1/2 Oz.



The use of steel shot, or even buffered magnum lead loads, in any shotgun can possibly result in what is known as a "ring bulge," an almost unnoticeable expansion in the barrel immediately behind the choke area.

Damage of this nature is cosmetic only and will not affect the performance of the firearm. The potential for a ring bulge can usually be avoided by using a more open choke such as modified or improved cylinder.

Choosing the proper choke and shot size for an individual's particular type of shooting (such as over decoys) must be considered before hunting with steel shot. Because steel pellets are much harder than lead, pellet deformation is virtually eliminated. Additionally, steel shot weighs about thirty percent less than lead pellets of the same size, resulting in more pellets per ounce of shot. These factors produce naturally tighter, denser patterns than lead loads. Consequently, it is recommended that hunters use a more open choke, such as improved cylinder or modified, to produce patterns similar to those of traditional lead loads fired from full choke barrels.

The lighter steel pellets also tend to lose their velocity faster than lead, resulting in lower retained energy or "knockdown" power downrange. The problem, however, is easily rectified by simply moving up two shot sizes. If you have been hunting with #6 lead shot, you would need to select #4 steel shot. This change will produce comparable downrange energy without sacrificing pellet count. Remember: An ounce of #4 steel will have about the same pellet count as an ounce of #6 lead due to the weight difference.

As with lead shot, maximum shooting ranges remain the major factor to be considered in reducing crippling rates. Many waterfowl hunters have routinely tried to kill ducks with lead shot at distances exceeding fifty yards. To ensure clean kills and retrieval using steel shot, this maximum distance should be reduced to forty yards.

Many hunters also mistakenly fear that using steel shot will require them to relearn wing shooting practices. This is simply not true. Differences in required leads between lead and steel are so minor that most hunters will never notice. For example, at thirty five yards, the difference in required lead is less than four inches! The bottom line when shooting steel is this: If you are a good wing shot with lead, you will continue to be a good shot with steel. If you are a poor shot with lead, the same weaknesses will be evident shooting steel.

Steel shot loads do cost slightly more in today's marketplace. There is currently a price difference of about two dollars a box. That difference has narrowed in recent years as the market for steel shot has grown and representatives of the shot shell manufacturers feel the price of steel shot loads will continue to decrease as lead shot is phased out of waterfowl hunting.

Availability of steel shot should not be a cause for concern. Sporting goods stores were aware of the impending conversion and have already ordered supplies of steel shot loads for the current season. Representatives of the ammunition manufacturers have stated that steel shot loads will be available in 10, 12, 16, and 20 gauges and in both 2 3/4" and 3" shells.

Pellet sizes will range from #6, which is fine for shooting over decoys, to #F, suitable for goose hunters. We strongly recommend that each hunter select the right size shot and shell for his or her situation by shooting test patterns with various loads and at various distances with his or her shotgun.

In summation, the steel shot requirement is now the law. It is mandatory for all waterfowl hunters in the designated zones (see map). It is illegal to use or to even be in possession of lead shot loads while in the act of hunting waterfowl in the specified zones. Violators will be subject to fines of up to $500 and/or jail sentences of up to six months.

The lead poisoning - steel shot debate has raged for decades. During that time, our waterfowl populations have declined to record low levels, due primarily to reductions in the quality and quantity of nesting habitat. These are difficult problems, requiring complex, long term solutions and multi-national cooperation.

Lead poisoning, however, has also contributed to annual waterfowl losses and this is a waste which can be reduced beginning with the 1987-88 waterfowl season. We can each do our part simply by GETTING THE LEAD OUT!

Table 1. Steel Shot Guide to Maximum Range (Yards)

Pellet Size	Small Ducks	Medium Ducks	Large Ducks	Geese
	Teal Bufflehead	Wooduck Scaup	Mallard Pintail	Snow White-Fronted
6	30	30		
4	45	40	35	
2		45	50	40
BB				60
T				60
F				60

Note: These ranges reflect only the capability of individual pellets to adequately penetrate the body of the bird. They are not recommendations of shooting distances. Long-range gunning depends heavily on pattern density, shooting skill and retrievability of hit birds, not just the retained energy of pellets.

COMPARISON OF LEAD VS. STEEL

Shot Type	Wt.	Shot Size	Pellets/ Load	Muzzle Velocity (FPS)	Retained Energy (Ft. Lbs.) 40 Yds.	Retained Energy (Ft. Lbs.) 60 Yds.
Lead	1 1/4	6	275	1330	2.3	1.3
Steel	1 1/8	4	211	1365	2.3	1.4
Lead	1 1/4	4	170	1330	4.4	2.7
Steel	1 1/8	2	142	1365	4.4	2.6
Lead	1 1/2	4	204	1260	4.1	2.6
Steel	1 1/4	2	156	1275	4.1	2.4
Lead	1 1/2	2	132	1260	7.0	4.6
Steel	1 1/4	BB	87	1275	8.3	5.2

Note: Steel shot pellets two sizes larger than lead deliver comparable down range energy.

The New Fur Council: Louisiana's Global Ambassador

By Bob Sheldon

If the council succeeds in its program, it will go a long way toward fulfilling a third and unstated aim– the preservation of vital marshlands from eatout by muskrat and nutria.

TRAPPING, an industry about as old as humankind, is emerging from troubled times and stepping onto a global stage ready to confront new technologies, new marketing techniques and new obstacles.

The primal appeal of fine furs and leathers, their ability to serve esthetic as well as utilitarian needs, has outlasted the challenge of laboratory-synthesized substitutes.

It has withstood also the sometimes misguided thrusts of preservationists, and is under attack now from virulent advocates of "animal rights."

But a revival of the fur trade is surely under way, and the newly constituted Louisiana Fur and Alligator Advisory Council is in the forefront of the movement.

The council is a unit of state government. In concept, however, it reflects the fact that trapping has traditionally been a bastion of free enterprise. Rewards (and this is true even behind the Iron Curtain) are still measured out in direct proportion to the skill and effort expended.

The council's objectives are twofold: To foster, through education, trapping and related manufacturing activities as essential vocations; and to strengthen Louisiana's economy by developing worldwide markets for fur and alligator products.

If the council succeeds in its program, it will go a long way toward fulfilling a third and unstated aim– the preservation of Louisiana's vital marshlands from eatout by muskrat and nutria populations that reach problematic levels.

The Fur and Alligator Advisory Council is strictly a shirtsleeve organization. Its nine appointed membe represent the trappers, dealers and landowners that comprise the industry in Louisiana. They received their credentials from Gov. Edwin W Edwards just last February following passage of enabling legislation.

A 10th member occupies an ex-officio seat as the designee of J. Burton Angelle Sr., secretary of the Louisiana Department of Wildlife and Fisheries. The ex-officio membe is R. Greg Linscombe, veteran biologist who works out of the department's New Iberia office.

Linscombe is attached to the Fur and Refuge Division, under whose egis the council functions. He takes the title of program director, but carries out any and all chores that accumulate between monthly sessions.

Actually, the council in large part owes its existence to Linscombe's inspiration and unstinting efforts. He got the original idea and laid the groundwork together with his chief, Johnnie W. Tarver, and other top Fur and Refuge officials.

The Fur Council is the only one of its kind in the United States. It has a counterpart, however, in the Fur Institute of Canada and has already worked closely with that body on common problems.

Because it is brand new, the council has made it a priority to introduce itself to the people it serves.

The group has designed a "logo"–an identifying trademark–and is incorporating it into stationery, business cards, giveaway pins, and exhibit booths for both trade fairs and public gatherings. It hopes to contact all Louisiana trappers (not always easy to track down) by mail or in person.

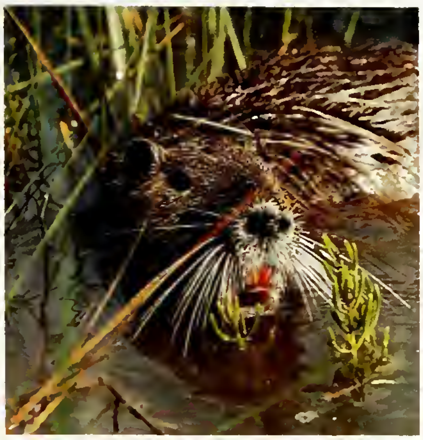
But that's only for openers. At least a dozen other programs have been launched, with targeted audiences covering a range from schoolchildren to European clothing stylists.

For example, as one of numerous publication ventures contemplated, the council has commissioned the revision of a 4-H Club manual for use by some 2,000 children engaged in fur projects.

It is also trying to squeeze its way into the 1988 Canadian International Fur Fair at Montreal, a marketplace for commercial interests. The council wants to sell them on nutria, which, despite its abundance and familiarity to Louisianans, is still regarded as an "unknown" at the U.S. retail level.

At a recent meeting, Greg Linscombe showed council members a "plucked" nutria skin, produced in Argentina, that rivaled mink in its silky softness. Linscombe said 35 percent of Louisiana skins could be processed the same way.

As the members examined pelts of varying textures and shades of dark brown, Linscombe called attention to one striking mutation of silvery hue that had been farm-bred in Poland.



Linscombe reported that he had just returned from a trip to Europe in the course of which he attended, as a delegate of the U.S. Department of Agriculture, a 10-nation conference on nutria farming held in Novi Sad, Yugoslavia.

As one outcome of the trip, research will be initiated in Louisiana to improve the techniques used by trappers for drying fresh nutria skins. Linscombe told the council that owing to a high rejection rate, Louisiana dealers had to sell their nutria at a 20 percent discount from the going world price.

In Poland, Linscombe studied farming methods that turn out a staggering 2.5 million nutria skins each year. He noted that the Poles had resisted communization of their farms and that 80 percent of total output still came from private operators. Although Louisiana has no nutria farms as such, Linscombe disclosed that several state residents had expressed interest in ranching the Polish mutant stock here.

While nutria has yet to gain acceptance among high-fashion furriers, it is slowly growing in acceptance everywhere. In Europe, nutria coats are being purchased for everyday wear while the mink or fox hangs in the closet for special occasions.

In the United States, which now leads the world in retail fur sales, a new class of customers is emerging. Young wage earners with money to spend, but not too much of it, are rubbing shoulders in the salons with the matrons and dowagers who used to be the mainstay of the business.

The younger customers are attracted to bargain furs coming from the Far East and are considered excellent prospects for nutria, which is relatively inexpensive and certainly durable.

To provide nutria with the added "image" it needs, the Fur Council is going right to the top. It has been negotiating on a promotional campaign with one of the largest fur retailers in the U.S.

The retailer, a swank New York City department store with branches in well-to-do Eastern suburbs, is especially noted for its spectacular merchandising displays. It envisions an all-Louisiana approach featuring Cajun seafood and other specialties as well as furs.

Besides nutria, the store wants to spotlight coats and accessories fabricated from muskrat, a long-time favorite, and raccoon, currently in vogue. As it happens, the three varieties are the ones trapped most extensively in Louisiana.

Market conditions determine how many animals will be harvested, and those have been highly volatile in recent years. The key to an adequate harvest is an economic incentive to trappers and landowners. If the market is strong and stable, then pelt prices should be reasonable and the incentive is created. In an average season, though, the state's 11,000 licensed fur trappers will come up with around two million skins.

The total includes 1.3 to 1.5 million nutria, at least 300,000 muskrat and some 200,000 raccoons. There also are varying numbers, all taken in the wild, of mink, opossum, otter, red fox, gray fox, bobcat, beaver, coyote and skunk.

Virtually all nutria skins have to be sold and shipped abroad for "dressing," or final preparation, before many of them find their way back to the United States. That is a situation the Fur Council is striving to remedy by encouraging the re-establishment of processing facilities in this country and Canada.

One of the council's major concerns is to open new markets for Louisiana's burgeoning alligator trade as both wild and farm-bred populations of the reptile soar. (See "Alligators: Louisiana's Newest Glamour Crop," *Louisiana Conservationist*, November/December 1986.)

The council is taking immediate steps to improve Louisiana's competitive position, according to its chairman, Robert W. Watson. Watson, of Franklinton, is also president of the Louisiana Trappers and Alligator Hunters Association.

No system exists at present for the grading of alligator skins, Watson said, and the council is undertaking to devise such a system. The project will involve the minute examination of 5,000 to 10,000 hides before standards can be proposed.

Also, Watson said, the council will fund an ongoing Crocodilian Trade Study with worldwide implications. Among other things, the study is expected to yield market data vital to Louisiana; assess the impact of crocodile and cayman skins entering the market, sometimes illegally, from underdeveloped nations; and help protect the species and their habitat.

To finance its initial programs, Greg Linscombe estimated that the council had a balance of $170,000, money derived from the sale of trapping and alligator hunting licenses. By action of the Legislature, $20 of each $25 license sold is allocated to council operations.

Ultimately, council members believe, the dream of a stable and prospering fur industry depends on public education.

They are confident that the public, once informed, will accept the council's message of the importance of trapping, not only to the state's overall economy but also to the well-being of its natural environment.

The public, though conservation-minded, has little sympathy for terrorists such as those who have trashed scientific laboratories in England in the name of animal rights.

The council believes that, with the proper information, the public will come to realize that controlling the population of vegetation-eating rodents is essential to the perpetuation of all forms of fish and wildlife as well as to the protection of the marshlands of Louisiana's vulnerable coastline.

Citizens have, in short, opted for sound wildlife management–and for the good things it brings.

These 10 Men Guide A Key State Industry

Established by Act 455 of the 1986 Legislature, the Louisiana Fur and Alligator Advisory Council consists of nine members appointed by the Secretary of Wildlife and Fisheries and approved by the Governor.

All members are actively engaged in the industry. They include one designated by the Speaker of the House and another designated by th President of the Senate.

In addition, there is a 10th, ex-officio seat on the council for the Se retary of Wildlife and Fisheries or his designee.

The council started work in February 1987.

Members representing trappers and alligator hunters are:

North Louisiana–**James Gallaspy,** Mansfield, fur dealer.

Southeast Louisiana–**Wilson Gaidry III,** Houma, biologist and trapper.

Southwest Louisiana–**Benny Welch,** Grand Chenier, schoolteache and trapper.

Statewide–**Robert W. Watson** (chairman), Franklinton, president o the Louisiana Trappers and Alligato Hunters Association.

Representing landowners are:

Southeast–**Kermit Coulon Jr.** (vice chairman), Houma, land manager.

Southwest–**John P. Donohue,** Abbeville, land manager.

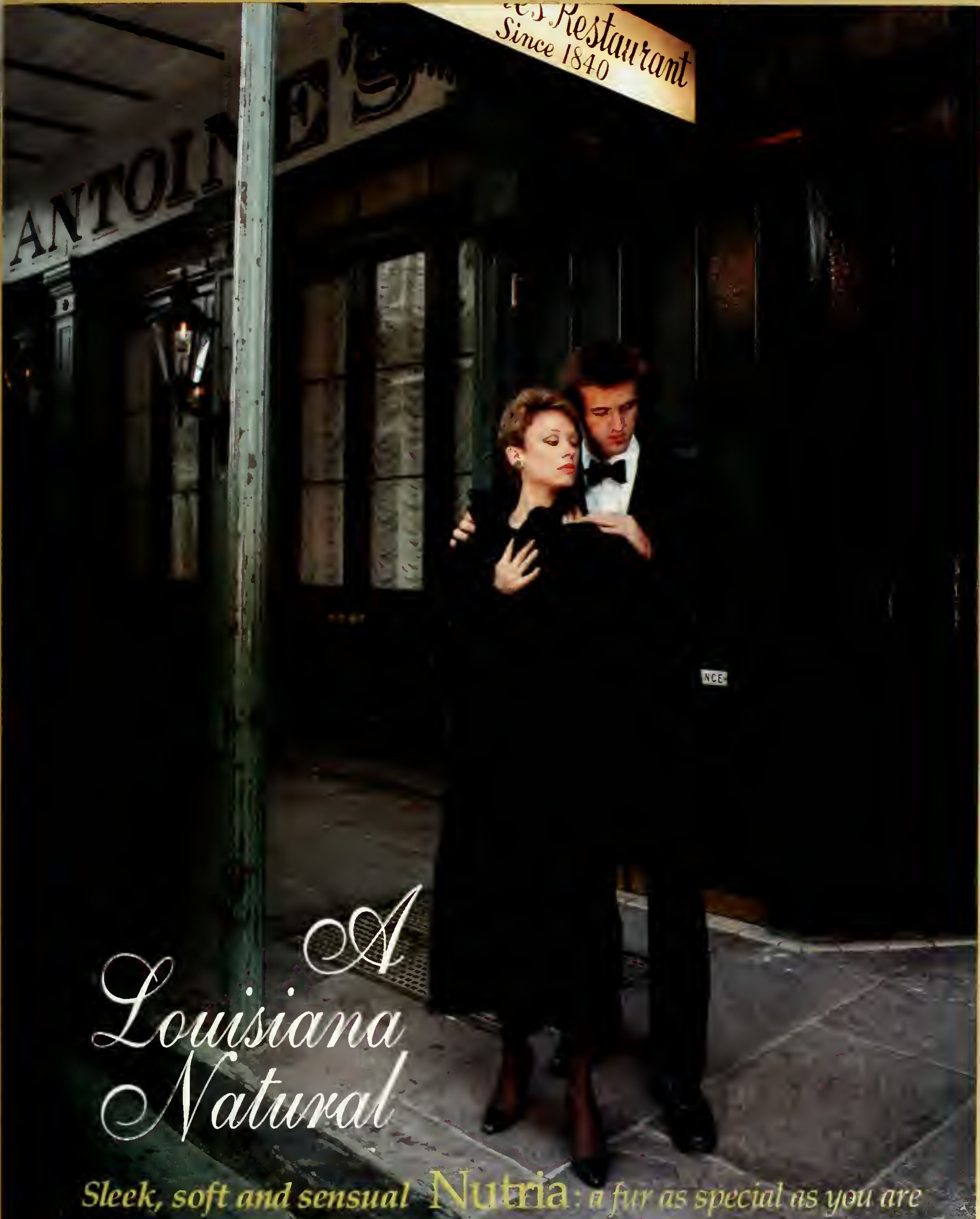
Statewide–**Roger Vincent Jr.,** Lafayette, land manager.

The Legislature's designees are:

House–**Lynn Gagnon,** Meraux, school principal and trapper.

Senate–**Donald Ansardi,** Davant, land manager.

Serving as ex-officio member is **R. Greg Linscombe,** Gueydan, Wildlife and Fisheries biologist and designee of Secretary J. Burton Angelle Sr.


Antoine's
Restaurant
Since 1840
A Louisiana Natural
Sleek, soft and sensual Nutria: a fur as special as you are

Fur courtesy Maison Blanche/Goudchaux's

Photograph by Ken Glaser

Buck taken by Joe Palmisano, Taxidermy by Carl Tregre, Swampland Taxiderm

Deer Season Forecast

"VERY GOOD"

By Maurice N. Cockerham

DESPITE SOME CONCERN about the health of the various hardwood mast crops in some sections of the state, professional wildlife managers are forecasting another productive deer hunting season for Louisiana.

Although it is too early for accurate determination as this forecast is being prepared (July), a few scattered areas in the northern portion of the state may see a reduction in some mast crops due to late-spring cold snaps. The deer will still be available, however, and hunters will simply have to shift their attention to other food sources which should be plentiful.

Generally speaking, deer herds throughout Louisiana remain near or, in many areas, slightly above the natural carrying capacity of the habitat. That, of course, can not be taken to mean that deer are abundant in all areas. Hunters should take into consideration the types of habitat available, land use practices and soil conditions in a given area. Bottomland hardwood areas usually support heavier concentrations of deer, but in some areas the density of the deer herd has resulted in smaller bodied animals. On the other hand, pure pine plantation areas and poor quality soils simply do not support dense deer herds. Some such areas, however, particularly where agricultural practices provide abundant foods, do produce heavier bodied animals.

At the present time, Louisiana harbors a total white-tailed deer population of about a half-million animals. Most areas now contain an over abundance of does in relation to the number of available bucks. The continuing reluctance of hunters to harvest does places heavy pressure on the annual crop of yearling bucks.

As a result, with hunters taking more than 100,000 deer annually, the average deer killed in Louisiana is a buck in the one-and-a-half year class.

Our annual poll of district offices throughout the state produced the following predictions for each area:

DISTRICT 1

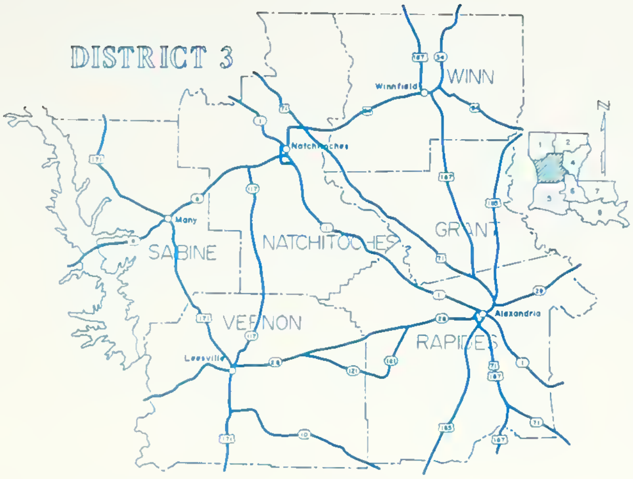
"The total number of deer available will be the same as it was last year. There has been nothing to affect total population. Hunter success may possibly be affected by the loss of some of the mast crop. The late freeze we had in this area appears to have damaged some of the oaks. Of course, we have a lot of honeysuckle throughout District 1 and that's our primary winter deer food anyway.

"We've seen a good bit of formerly open paper company land leased to hunting clubs, but there's still a lot of land still available to the public.

"All in all, we expect this season to be about equal to last year."
James Taylor, Game Supervisor

DISTRICT 2

"We are expecting another excellent season. It should equal the season we had last year despite the freeze damage to some of the mast species such as beech. Some of the oaks were hurt by the cold, but enough of them pulled through to offer some very attractive possibilities to hunters who get out there and locate them. Then too, we have a lot of agriculture in this district and that provides attractive feeding areas for the deer."
Harry Cook, Biologist



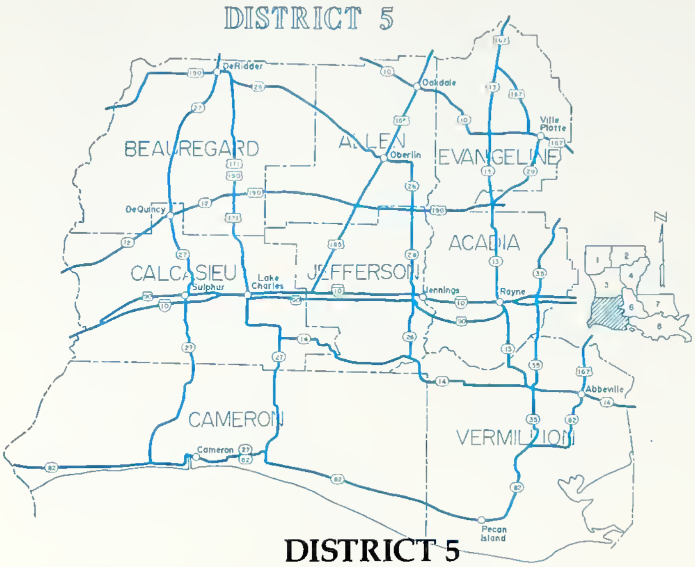
DISTRICT 3

"We'll have an average season this year. Much of our area is a bit below carrying capacity and we have a lot of poor quality soil and pine plantations, both of which work against an abundant deer population. We do have some scattered pockets of hardwood and mixed pine-hardwood habitat which support good deer herds and the hunters who stay with it can find some really nice animals from time to time."
Czerny Newland, Game Supervisor

DISTRICT 4

"We're anticipating another real good season. We had an excellent season last year, particularly on the wildlife management areas, and we expect about the same this year. It may not be quite as productive. There may be some damage to the acorns and other mast species in the northern end of the district but it's really too early to say for sure.

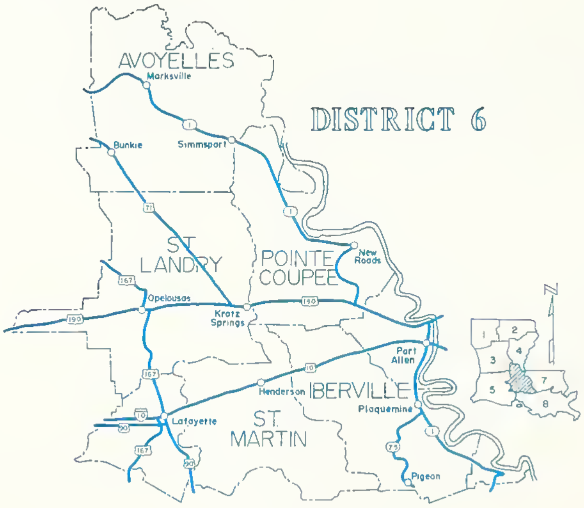
"Even if we do lose some of the mast, the other browse crops should be abundant. Like I say, we had a really good season last year, so its hard to predict a repeat for this year but we'll have a fine season."
Reginald Wycoff, Game Supervisor



DISTRICT 5

"Things have not changed much with our deer herds and hunters can expect another season similar to the 1986-87 season. Most of our deer herds remain at or above the optimum carrying capacity of the habitat and that works against the quality of the animals with regard to body size and antler development.

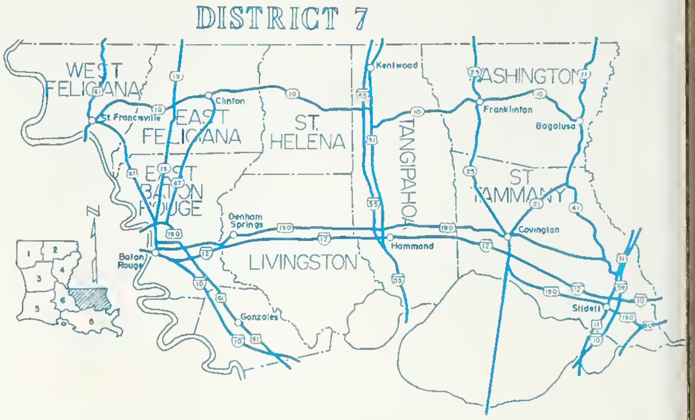
"Barring any unforeseen problems, such as hurricanes, we'll have another good season, particularly in the upper reaches of the district with Beauregard and Allen parishes being the hotspots."
John Robinette, Game Supervisor



DISTRICT 6

"The deer population throughout District 6 is in good shape. Its just about at the carrying capacity. We expect to have another good season like we had last year.

"We will have a couple of changes this year. There will be a restricted area on the Thistlewaite WMA where hunting will be prohibited and it will be plainly marked. We will also have a fairly large new area available in the Atchafalaya National Wildlife Refuge adjoining Sherburne WMA. Hunters should be aware that some of the boundary markings are not completed on the various sections of the NWR. They'll have to be sure they know where they are to avoid straying onto private property."
Anthony Vidrine, Wildlife Specialist

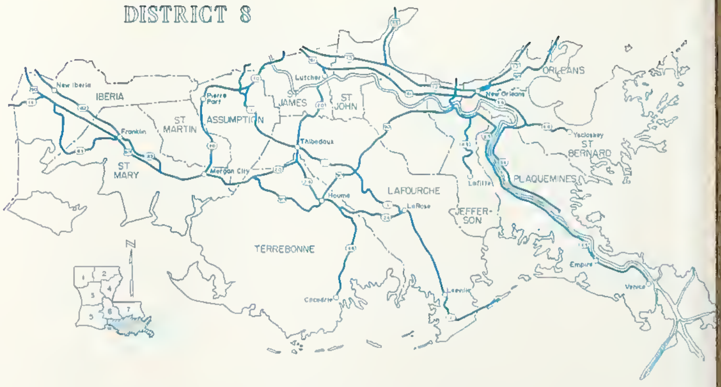


DISTRICT 7

"The overall situation in District 7 looks good. The season should be at least as good as last year. We had a mild winter last year and we should have a good acorn crop this year. We also have a good supply of briars and honeysuckle.

"On private property, a lot of landowners have had to do some timber cutting and that will increase the available browse. We also had some selective cutting done on the Pearl River WMA to provide some openings and increase browse there.

"We've also added six thousand acres to Pearl River and that will increase opportunities for quite a few hunters."
Dave Moreland, Game Supervisor



DISTRICT 8

"District 8 should see another season comparable to last year. Of course, the big threat down here is hurricane season. Aside from that, there haven't been any significant changes in the deer herds or the available food plants and habitat.

"All in all, if we don't get any bad storms or high water we should have another good season."
Robert Beter, Game Supervisor

IN APPRECIATION

On behalf of the sportsmen of Louisiana, the Department of Wildlife and Fisheries does hereby express deep gratitude and tender a heartfelt thank you to private landowners of this state who participate in the department's Wildlife Management Area Program.

These landowners lease land to the department on a fee free basis for outdoor recreation in the form of hunting, fishing, boating, camping, hiking, birdwatching and many other outdoor activities.

The department's free access Wildlife Management Area Program encompases 1,084,674 acres, 273,095 of which are fee free leases from private landowners. It is one of the most successful programs of its type in the nation and furnishes countless days of outdoor enjoyment for the citizens of Louisiana.

Other wildlife management areas are either department owned or operated through agreements with other state or federal agencies.

To the owners of the private lands in the Wildlife Management Area Program, we thank you.

Biloxi
  Biloxi Marsh Land Corporation

Boise-Vernon
  Boise Cascade Co.

Georgia-Pacific
  Georgia-Pacific Corporation

Jackson-Bienville
  Willamette Industries

Sabine
  Boise Cascade Co.
  International Paper Company

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  Manville Forest Products Corporation

West Bay
  Boise Cascade Co.
  Louisiana Pacific
  Quatre-Parish

Wisner
  Edward Wisner Donation Advisory Committee

Thistlethwaite
  Thistlethwaite Heirs

LOUISIANA HUNTING SEASONS 1987–1988

"Respect the Landowner"

RESIDENT GAME BIRDS AND ANIMALS

Shooting Hours

One Half Hour Before Sunrise To One Half Hour After Sunset

QUAIL: November 26-February 28. Daily bag limit 10, possession 20.

SQUIRREL: October 3- January 17. Daily bag limit 8, possession 16.

RABBIT: October 3-February 28. Daily bag limit 8, possession 16.

BEAR: November 7-November 15. One per day; one per season. See schedule for open area.

RACCOON AND OPOSSUM: No closed season. Raccoon and opossum can be taken at night by one or more licensed hunters with one or more dogs and one .22 rimfire rifle. A licensed hunter may take raccoon or opossum with .22 rimfire rifle or shotgun during daylight hours during the open squirrel season. No bag limit during open trapping season. Remainder of year, bag limit is one per person per day or night. No one shall pelt or sell skins or carcassses of raccoons or opossums taken during the trapping season unless he is the holder of a valid trappers license in addidion to a basic hunting license.

CROWS, BLACKBIRDS are considered depredators in Louisiana and may be taken year round during legal shooting hours.

COMMERCIAL HUNTING PRESERVES: October 1-April 30; pen reared birds only.

DEER HUNTING SCHEDULE

Bag limit is one legal deer per day, six per season. Hunting is restricted to legal bucks only, except where specifically permitted. A legal buck is a deer with visible antlers of hardened bony material, broken naturally through the skin.

Either-sex deer is defined as male or female deer. The taking of spotted fawns is prohibited.

It is illegal to hunt or shoot deer with firearms smaller than .22 caliber centerfire or a shotgun loaded with anything other than buckshot or rifled slug. Handguns and muzzleloaders are permitted.

Pursuing, driving or hunting of deer with dogs during the still hunting season is prohibited.

ARCHERY SEASON: Still hunting only. October 1-January 20 statewide, unless otherwise restricted on WMA's. Either deer sex may be taken in all areas open for deer hunting. Where a buck only season is in progress for gun hunting, however, archers must conform to the buck only regulations, including WMA's. Bow and arrow regulations: Hunting arrows for deer must have well-sharpened metal arrowhead blades not less than 7/8 in. width. Bow and arrow fishermen must have a sports fishing license and not carry any arrows with broadhead points unless a big game season is in progress.

HUNTER ORANGE: Deer hunters (except on property which is privately owned and legally posted) shall display a total of 400 square inches of "Hunter Or-

MIGRATORY GAME BIRDS

DOVES: There is a statewide 70-day, three-part season: Sept 5-13, Oct. 24-Nov. 29, and Dec. 12-Jan. 4. Bag limit is 12–possession 24.

TEAL: Sept. 19-Sept. 27. Bag limit is 4 and possession limit is 8 *Teal only.* **Shooting hours** are sunrise to sunset. Waterfowl stamp is required.

DUCKS: West Zone: Nov. 7-Nov. 29 and Dec. 19-Jan. 9. (45 days) East Zone: Nov. 21-Nov. 30 and Dec. 19-Jan. 17. (40 days) The north-south line separating the east and west zones of the state will run from the Arkansas state line south on La. Hwy. 3 to Bossier City, then east on Interstate Hwy. 20 to Minden, south on La. Hwy 7 to Ringgold, east on La. Hwy 4 to Jonesboro, then south on U.S. Hwy 167 to Lafayette, then southeast on U.S. Hwy. 90 to Houma, then south along the Houma Navigational Canal to the Gulf. **POINT SYSTEM:** 20 Point Class: gadwall, shoveler, wigeon, scaup, blue-winged teal, green-winged teal, cinnamon teal, red-breasted merganser, American merganser. 35 Point Class: pintail, mallard drake, mottled duck, ring neck duck, all other ducks not listed. 70 Point Class: wood duck, hooded marganser, redhead. 100 Point Class: black duck, mallard hen. The daily bag limit on ducks is reached when the point value of the last bird taken added to the sum of the point values of the other birds already taken during the day reaches or exceeds 100 points.

Season closed for canvasback.

SCAUP: (SPECIAL SEASON): Open only in designated areas (See 1987-88 Migratory Game Bird Hunting Regulations). Jan. 18-Jan. 31. Daily bag limit 5. Possession limit 10.

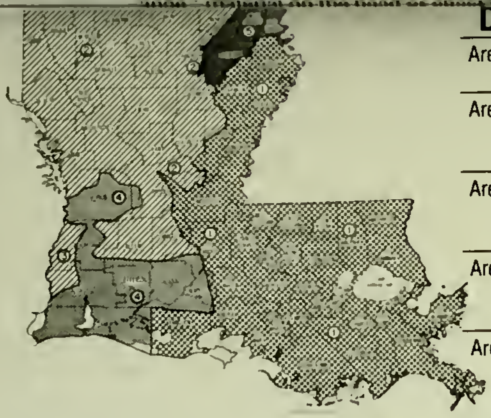
COOTS: Season will run concurrent with the duck seasons in both zones of the state, with a daily bag limit of 15 and a possession limit of 30.

GEESE: West Zone: Nov. 7-Nov. 29 and Dec. 19-Feb. 3. (70 days) East Zone: Nov. 21-Jan. 29 (70 days) Limit for geese is 5 daily, with not more than two white-fronted (specklebellies) geese in bag. Possession limit is 10, with not more than four white-fronted geese. Shooting of Canada geese in Louisiana remains closed.

Goose "creeping" prohibited. It is unlawful to "approach geese by creeping, crawling, or stalking for the purpose of taking geese or thereinafter causing geese to be taken."

RAILS: Sept. 19-27 and Nov. 7-Jan. 6. Bag limit on king and clapper rails is 15 in the aggregate. Possession limit is 30. Bag limit on sora and Virginia rails is 25 in the aggregate, which is also the possession limit.

GALLINULES: Sept. 19-27 and Nov. 7-Jan. 6. Daily bag limit is 15. Possession limit is 30.



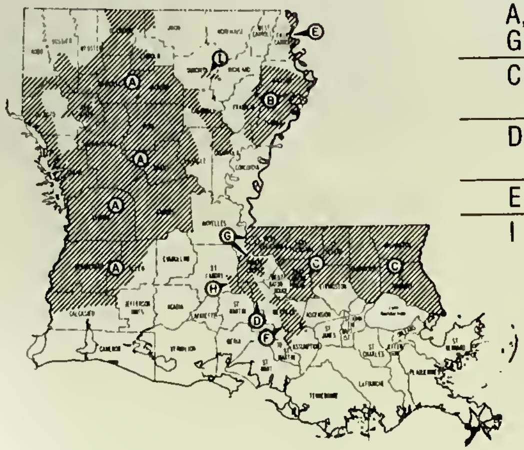
DEER HUNTING SCHEDULE

Area 1	Still hunting only: Nov. 21-29 With or without dogs: Dec. 5-Jan. 17
Area 2	Still hunting only: Nov 7-29 With or without dogs: Dec. 5-13 With or without dogs: Dec. 19-Jan. 3
Area 3	Still hunting only: Nov. 7-29 With or without dogs: Dec. 5-13 With or without dogs: Dec. 19-Jan. 3
Area 4	Still hunting only: Nov. 7-29 Still hunting only: Dec. 5-13 Still hunting only: Dec. 19-Jan. 3
Area 5	Still hunting only: Nov. 21-29 Still hunting only: Dec. 5-13 Still hunting only: Dec. 19-Jan. 10

EITHER SEX HUNTING: See Louisiana Hunting, Fishing and Motorboat Regulations 1987-88.

1988 TURKEY SEASON

Daily limit one gobbler; three per season. Still hunting only. Big Game License required in addition to Basic Hunting License. Dogs, baiting, live decoys and electronic calling devices are illegal. May be hunted with shotguns using shot no larger than size #2 or with bow and arrow but by no other means. Shooting from vehicles prohibited.



Area	Open Season
A, B G, H	March 26- April 24
C	March 19- April 24
D, F	March 12- April 17
E	April 2-30
I	April 23-30

(2) Remainder of seasons for rails and gallinules and entire snipe and woodcock season: $1/2$ hour before sunrise to sunset.
(3) Ducks (including scaup season, coots): $1/2$ hour before sunrise to sunset.
(4) Geese: $1/2$ hour before sunrise to sunset.
(5) Doves: $1/2$ hour before sunrise to sunset EXCEPT Noon to sunset on Sept. 5-6, Oct. 24-25 and Dec. 12-13

Use of bait and live decoys prohibited. Duck and goose hunters 16 and older must have federal waterfowl stamp in addition to valid hunting license. Use of rifles, or shotguns larger than 10 gauge or capable of holding more than three shells prohibited.

LICENSES AND PERMITS

HUNTING LICENSES: (All basic licenses exclude big game–deer, bear and turkey hunting).

(1) **RESIDENT:** (Basic License required to obtain Big Game License)

(a) Basic Season (Excluding bear, deer & turkey)	$10.50
(b) Big Game (Required for bear, deer & turkey, in addition to Basic License)	$10.50
(c) Archery Hunting License (Needed in addition to other licenses required by law)	$10.50
(d) Combination Hunting and Big Game	$21.00
(e) Combination: Basic Fishing, Saltwater Fishing, Basic Hunting and Big Game	$32.00

(2) **NON-RESIDENT:** (Basic License required to obtain Big Game License)

(a) Basic Season (Excluding bear, deer & turkey)	$75.00
(b) Basic 3-Day Trip (Excluding bear, deer & turkey)	$40.50
(c) Big Game (Required for bear, deer & turkey, in addition to Basic License)	$40.50
(d) Archery License	$10.50
(e) 3-day Migratory Game Bird	$25.00

Residents and non-residents under sixteen years of age and residents sixty years of age and older who have resided within the state for two years prior to application are not required to obtain licenses. Proof of age must be carried. Residents of Texas, Arkansas, Mississippi, ALabama and Florida will pay the same to hunt in Louisiana that Louisiana residents pay to hunt in their state. Military personnel on active duty shall be given resident privilege.

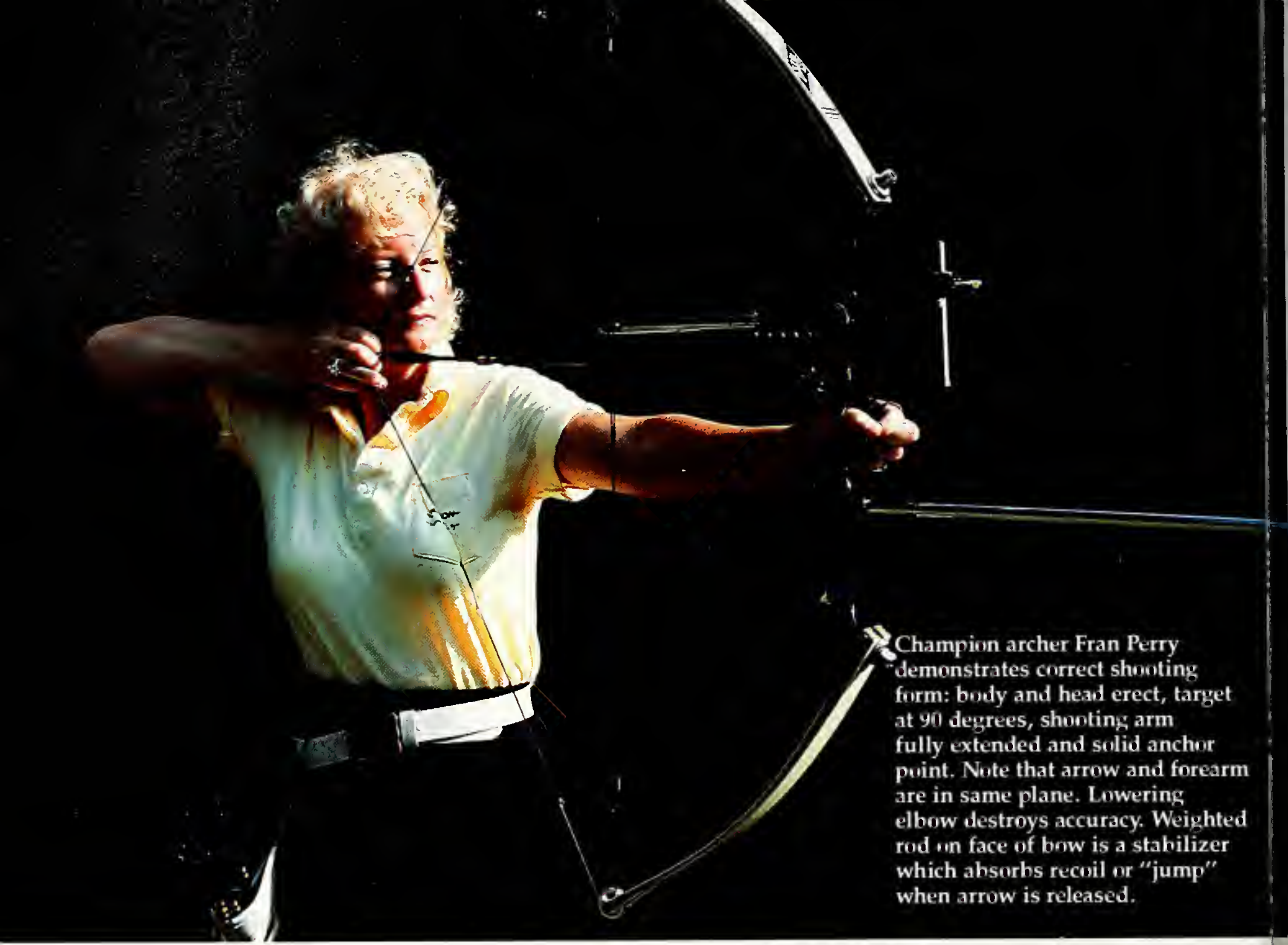
COMMERCIAL HUNTING PRESERVE LICENSE
(Pen Raised Birds) $200.00

HELP STOP POACHING
1-800-442-2511

Call Operation Game Thief's toll-free hotline any time of day or night.
Remember a poacher is stealing from you.

LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES
P.O. BOX 15570 • BATON ROUGE, LOUISIANA 70895

HUNTER EDUCATION CERTIFICATION LAW: All applicants for a Louisiana Hunting License born on or after September 1, 1969 are required to satisfactorily complete a Hunter Education Course approved by the Department of Wildlife and Fisheries before purchasing a license. PROOF OF CERTIFICATION must be presented at the time of license purchase.



Champion archer Fran Perry demonstrates correct shooting form: body and head erect, target at 90 degrees, shooting arm fully extended and solid anchor point. Note that arrow and forearm are in same plane. Lowering elbow destroys accuracy. Weighted rod on face of bow is a stabilizer which absorbs recoil or "jump" when arrow is released.

Moving Over to the Bow

By Maurice N. Cockerham
Photography by Bill Ford

"My primary interest in bowhunting is still to extend my hunting opportunities, but strangely, mastering this jumble of bent limbs, cables, pulleys and string has caught my fancy."

After several years of toying with the idea and feeling a vague prejudice against the sport, I recently entered the ranks of the bowhunters. It has been a revelation.

I am not interested in Mr. Rambo and have no mystical desire to rub bear grease in my hair and play Hiawatha. This was a calculated decision spurred by an intense love of deer hunting.

Note that I said HUNTING! The sport, as any experienced bowhunter will tell you, is in the hunting. Deer killing is lagniappe. Deer killing is the ultimate reward when you have pulled all the parts together...done everything right...and have one end of a rainbow touching your shoulder.

This is a close range sport. The average gun hunter, if he is a decent marksman, can select a stand in a likely looking area and have a good chance of bagging any deer strolling into his field of view.

Not so, the bow hunter. His scouting and sign reading skill must be such, his camouflage skill must be such, and his discipline must be such that he achieves eyeball-to-eyeball contact with his prey. Thirty yards is a long shot. Seventeen yards is the average range at which bowhunters score.

Even at that range, the nature of the bow and arrow demands pinpoint accuracy. A conscientious and skillful bowhunter will see many deer, but he will only release an arrow when he has a clean, unobstructed shot within his predetermined accuracy range. He has to love the sport.

Meat hunters will find the bow to be the ultimate in raw frustration. That, Clyde, is as it should be.

Bow hunting is a rapidly growing sport. Louisiana doled out more than 27 thousand archery licenses for the 1986-87 season, up from 22 thousand in 1985-86, up from 19 thousand in 1984-85.

Let me tell you how I finally got smitten by the bow bug and something of the ease/difficulty of learning to shoot a bow and arrow.

As I said, I had been mulling the idea for some time. Many gun hunters I know have entertained the idea but, for one reason or another (most as invalid as mine), have procrastinated.

I was pushed over the edge by a shoulder injury. Archery offered therapy to redevelop strength and coordination. Perhaps you will be encouraged by what I have learned and something less drastic, like common sense, will motivate you to give bowhunting a try.

I have talked with many bowhunters and most turned to the bow simply as a tool to extend the hunting season. For $10.50 above the cost of your regular basic and big game license, you add two months to your annual allotment of deer hunting time. Bow season begins October 1 and runs without interruption through January 20. You can haunt the woods with your bent limbs and sharp sticks between "splits," when the gun hunters are compelled to impatiently cool their heels.

As a bonus, the bowhunter may take bucks or does. (EXCEPTION: During the gun season, when the "bucks only" rule is in effect, bowhunters are also restricted to antlered deer.)

Such was my logic. Bowhunting would be an excuse to spend more time deer hunting, sharpening my ability to scout and read sign, trying to outwit a master of the game on his own turf. Simply being out there, as opposed to being in here.

At this point, I was the victim of

good fortune. In a rare moment when I listened to informed and intelligent advice, I avoided the Beginning Bowhunter Boondoggle.

That scene usually works like this: The beginner strolls into a discount house, buys this week's Rambo Special compound with a 70 pound draw weight, adds a few economy arrows, selects broadheads from the most attractive display and sallies forth to teach himself to shoot a bow. Poor plan.

Luck slipped up on me in the form of a seasoned bowhunter named Jonathan Glasscock, a Regional Coordinator with the Hunter Education Section in the Department of Wildlife and Fisheries and state chairman of the National Bowhunter Education Foundation.

"Look," said he, "my equipment won't fit you or suit you, my technique and form probably will not be right for you. Save yourself headache and frustration. Go to a Pro Shop."

He delivered up a name and phone number and shooed me off to a shop run by a pro archer with experience initiating the uninitiated.

Fran Perry is an expert with two decades of experience. She is currently the State Indoor Freestyle Champion and Overall Champion. Through the years, she has held both the Indoor and Outdoor Championship titles. Although she no longer hunts, she knows more about the sport than many bowhunters and is responsible for a good portion of the growth in the bowhunting fraternity.

I arrived at her shop near Walker ready to start sticking life-sized, 3-D deer targets. Wrong.

For several hours I studied the basics of shooting a bow and arrow correctly and accurately. I watched video tapes and looked at photos and drawings to learn the basics of position and form and the necessity of matching the bow to the individual and the arrow to the bow.

The Rambo image died quickly and mercilessly. "The biggest mistake beginning bowhunters make is 'overbowing' themselves," the Lady said. "They want a 70 pound (draw weight) bow. Even if they can draw the thing, they simply are not conditioned to hold that pressure while they concentrate on the essentials of anchoring, aiming and releasing. With practice, you may be able to work up to such a bow, but the bowhunter MUST learn control and accuracy first. You can not do that with too much bow."

She handed me a beautiful compound with a seventy pound draw weight. One tug on the string told me I was in trouble.

"The rule of thumb," she said, "Is to draw a bow ten times, wait one minute, draw it ten more times, wait one minute, then draw it a final ten times. If you can draw it properly throughout that drill, it is not too heavy for you."

"But, but, but," you might say, "you only have to draw it once, or maybe twice, to shoot at a deer." This is true, but in order to hit what you shoot at, you have to be accurate. To be accurate, you have to practice...a lot. That means pulling that string

many, many times. Remember, too, that when your big chance finally arrives, you will have been sitting or standing for a long time, probably cold, cramped and stiff. You have to draw that monstrous bow, perhaps i an awkward position, with no warm up and with an absolute minimum of gyration and contortion. You extend your shooting arm, draw back smoothly and steadily to your anchor point, and your troubles have just started.

You must make the draw while the animal has its head down, is looking away from you or has its head behind a tree or bush. Too, you cannot release the arrow if the animal is looking in your direction (chances are, he'll move before the arrow gets to him!) or if the vital kill area is obstructed by brush or the animal's position. You just may have to hold that bow at full draw for thirty seconds to a minute or even more. Shame on you if you are holding too much bow.

Like most experienced bowhunters, Fran Perry considers arrow selection every bit as important as picking the right bow.

"The arrow is your most important single piece of equipment. It has to match the bow, the shooter and the broadhead," she noted. "It has to be the right length for the shooter and the bow. It has to have enough spine (stiffness) to match the bow's draw weight.

"Additionally, the weight of the arrow must match the weight of the broadhead which, in turn, must match the bow. It's an intimate relationship between the pieces of equipment. A poor choice in any area will show up in poor accuracy, missed opportunities and frustration."

Concerning broadheads, Perry emphasizes that the bowhunter does not depend on "knockdown" power. "A broadhead is a cutting tool. Its effectiveness depends on a proper weight for the arrow and bow it is used with and an absolutely razor sharp edge on each blade. I strongly recommend a broadhead with at least three blades, ventilated to reduce drag and with a cutting width of at least one and one-eighth inches.

"At responsible bowhunting distances in Louisiana, a 125 grain broadhead shot from a 55 pound bow is every bit as deadly as a 160 grain head shot from a 70 pound bow. Neither is worth having unless they are shaving sharp."

By this time, we had settled on a bow that matched my body size, strength and length of draw. That is the overall length of the arrow needed when an individual draws a bow PROPERLY. Beginners should note that their length of draw may change a bit as their back and shoulder muscles tighten with practice and they develop their own form or style. This is particularly true if the archer switches from finger release tabs to a mechanical release.

"Now I get to shoot this thing," I tell myself. Wrong again. I found myself repeatedly drawing the bow to drill the essentials into the memory muscle between my ears.

"Draw, anchor, aim, fire," Fran Perry intoned. You do not dry fire a bow. The result can be somewhat more upsetting than a broken firing pin in a rifle. The bow may literally explode in your hands.

Perry then launched into instructions on the proper method of drawing the bowstring back to touch the same point on the face each time. This is called the "anchor point," and consistency here is vital to accuracy. The draw itself is accomplished with back and shoulder muscles. Arm strength has little to do with it.

At the "draw" command, the bow arm is extended straight out to the side, pointing at the target. The shoulder is rolled back as the forearm rises smoothly into the same plane as the arrow. At the "anchor," the archer has formed a perfectly straight line running from the tip of the arrow back through the tip of the elbow. This position is maintained as the bowstring (rear sight) is aligned with the sight pin (front sight) which is centered on the target.

The bowstring must be released exactly the same for each shot. Any change will send the arrow askew. Release techniques, however, can only be practiced with real arrows and real targets. NOW I would get to shoot the thing.

Bowhunting demands pinpoint, first-shot accuracy. Responsible bowhunters spend lots of time "punching paper."

We stepped into the Great Outdoors (Fran's backyard) where a styrofoam target sat at a measured ten yards.

"Too many beginners try to start shooting at twenty yards or more," Fran noted. "That's a bad mistake. They spray their arrows and that leads to disappointment and frustration. The object is to develop control, consistency and accuracy. Fifteen yards is tops for a beginner and ten yards is better. When you can put your arrows into a three inch circle, consistently, you can back up five yards and start over again."

This is another point where having a professional at your side works wonders. As I prepared for each shot, she talked me through the drill.

"Point your bow arm straight at the target...now draw, use your back muscles...bring your elbow up a little...anchor on your cheek...now line up your sights...don't let your shooting hand creep forward...hold your anchor...aim...now release smoothly."

The wisdom of Jonathan Glasscock's advice to seek out a professional instructor was immediately evident. The first six shot group produced one "flyer" outside of a five inch circle.

"You pushed the bow when you released," Fran noted. I had not noticed, but her trained eye caught the error. By the time the third group was fired, arrow shafts were slapping one against the other as they struck the target. I was elated.

Following that session, Fran Perry turned me loose to practice in my own yard.

"Shoot at least once and preferably twice a day. Try to shoot a few more arrows each session. When you get tired and your pattern starts to spread out, stop. Train yourself to repeat the drill subconsciously for each shot. Draw, anchor, aim and release. Don't forget to follow through on every shot. Come back here in three or four days."

Those follow up sessions have been important. It is much easier to avoid bad technique if you have someone to catch mistakes when they first creep into your shooting style.

I must maintain that my primary interest in bowhunting is still to extend my hunting opportunities, but strangely, the challenge of mastering this jumble of bent limbs, cables, pulleys and string has caught my fancy. Like the other shooting sports, proficiency resulting from practice is its own reward. October will come. Meanwhile, this is fun.

Seeds of Recovery

By Sara Ann Harris

Photography by Randall Hunt Moore

Urbanization in all of its forms depletes the rich variety of native plants in Louisiana.

MOTORISTS FREQUENTLY REMARK to the Louisiana Department of Transportation and Development on the stands of wildflowers along our miles and miles of superhighway. They admire the lavish brilliance of Louisiana's restored native plants also along state and parish roads, on levees, in traffic circles and school yards and on plantation estates. The comical bright yellow Mexican hat *(Ratibida columnaris)*, the showy purple coneflower *(Echinacea purpurea)*, the stunning tickseed *(Coreopsis tinctoria)*, and the intricately patterned Indian blanket *(Gaillardia pulchella)* bloom in rounds of vibrant color from March through June.

Project Wildflower, begun in the spring of 1983 at the Lafayette Natural History Museum and Planetarium, provides seeds and expertise to communities throughout Louisiana. During the fall, cities such as Lafayette, Alexandria, Port Allen, Shreveport, Monroe, Baton Rouge, Ferriday, Eunice, Vinton, Kenner, Opelousas, Rayne and New Orleans have sponsored plantings. Chambers of Commerce, banks, museums, libraries, businesses, garden clubs and civic organizations in October and November get involved with the wildflower programs at one of three seed outlets that have sprung up in the state: Lafayette Natural History Museum and Planetarium, CENLA Pride in Alexandria (a chapter of Keep America Beautiful) and the Louisiana Nature and Science Center in New Orleans.

The immediate and most visible payoff, of course, of Project Wildflower is beautification and litter abatement. Wildflowers restored also fill an important environmental function. And, as demonstrated by other states, the project stands to cut government spending on highway maintenance plus enhance the state's tourist industry.

President of the Louisiana Native Plant Society Dianne Laborde Bullard, who was instrumental in developing the program at the museum and co-directed it for several years, reported that in the spring of 1984 there were a total of four plots in the state. By the spring of 1987 some 15 major sites were bursting with the colors and fragrances of flowers which once grew naturally in these areas.

Randall Hunt Moore of the Alexandria contingent heads up the most successful planting program to date as confirmed by the legislature's naming Alexandria the Wildflower Capital of the state. She explained that there is an important fringe benefit to planting wildflowers. Beautifying the roadsides is in itself a deterrent to littering – that embarrassing problem which visitors to Louisiana are forever questioning us about. "People are very hesitant to throw a beer can into a plot of lush flowers."

Speaking to the environmental values of the program, Bullard explained, "Texas uses heavy plantings of wildflowers on steep banks to help stabilize erosion problems. On the coastline and the barrier islands, wildflower root systems help keep sand in place. And, of course, wildflowers are an important food source for insects, birds and many wild animals."

Four years ago when the Lafayette museum hosted Wildflower Workshop to kick off a planting program in Louisiana, Paul Hardy, then secretary of the Louisiana Department of Transportation and Development, reported that there were 16,000 miles of state maintained highways or 300,000 acres of grass requiring maintenance. The '82 figure for mowing alone was $7 million. Project Wildflower organizers proposed that roadside wildflowers as a landscape solution presents the state with savings of millions of dollars. A wildflower maintenance schedule requires one or two mowings per year instead of the routine four to six. Texas State Department of Highways and Public Transportation landscape architect Herbert Neimann reported that the Texas Wildflower Program, which of course was begun by Lady Bird Johnson and had a thirty-four year success record, had saved Texas taxpayers $8 million each year in mowing costs.

The Louisiana Legislature in 1987, a year of belt tightening, affirmed the value of such a program by passing a resolution to "urge and request the Department of Transportation and Development to institute a program for seeding native plants on rights of way."

As appreciated by the same resolution, Louisiana's tourism industry stands to gain as Project Wildflower takes root. As the flowers reseed themselves and the stands become self-propagating, splashes of color throughout the state during the spring will blossom into an interlacing stream of native wildflowers from border to border that bloom year round.

Choice of seed and mix are in themselves a science. Compiling the research from other state programs and studying the highly diverse flora of Louisiana, each of the headquarters has ordered mixes of flowers suited to Louisiana's six vegetative regions: marsh, prairie, longleaf pine, shortleaf pine-oak-hickory, bottomland hardwoods and cypress, and upland hardwoods. Bullard explained that only a small percentage of wildflowers actually make suitable candidates for roadside plantings. The criteria are: showy flower cluster, adaptation to full sun, adaptability to different soil conditions and non-selective planting methods, ability to reseed exceptionally well. Moore of CENLA Pride added to that list: compatibility with other flowers, low growing (knee high) so as not to obstruct visibility or appear unkept. Planting a *mix* is desirable, she continued, because it produces a time released effect as the different species bloom in rounds of color.

In addition to roadside plantings, wildflower uses which interested parties may want to consider are beautification of urban parks, shopping malls and other public facilities, restoration of residential development areas, revegetation of road cuts, and establishment of a substitute for lawns.

Any business, organization or individual that would like to visit a wildflower preserve or garden, enroll in a workshop, sponsor a planting or make a contribution may contact Dianne Laborde Bullard, Project Wildflower, Lafayette Natural History Museum, 637 Girard Park Drive, Lafayette, LA 70503. Her telephone number is 318-261-8350. October and November are the months to plant these seeds of recovery.

Clear and clean again, Saline Lake shows great promise for the return of recreational and commercial fisheries.

Reclaiming Precious Backwater Lakes

By Sara Ann Harris
Photography by Guy LaBranche

> ***"What we have done is provide an opening from the Catahoula Lake Diversion Canal so that the Black River floods the complex BEFORE the Red River can."***
>
> *Arthur Williams*
> *Louisiana Department of Wildlife and Fisheries*

WELL EXPOSED to the elements, Ernest Donaldson was a dark copper. Every wrinkle in his face cast a shadow on features that spoke of Indian heritage. Casually reading a western, the landing owner tossed another aluminum can over his shoulder into the garbage. This was *the* picture of life on Saline Lake: very slow and very few fishermen.

Or at least it *had* been the picture almost every year for the past twenty five years. Historically, Saline Lake, as part of the most expansive backwater system in the state, had been every fisherman's dream. But navigation and flood control structures built in the '60s and the '70s had cut the Saline off from the high quality waters of its natural source–the Black River (see map). The consequent turbity, siltation or just plain muddiness resulted in an incredible drop in fish numbers. The lake became almost uninhabitable.

But in the spring of 1987, Donaldson and other bait shop owners had seen a big increase in boat traffic. In the heat of this weekday afternoon in late July, he had picked up reading where he had left off before the weekend caravan of fishermen, campers, boaters and outdoor enthusiasts. They had put this man back to work.

What caused the turn around was a weir at Cross Bayou built in 1986 by the Louisiana Department of Wildlife and Fisheries. Constructed via the support and leadership of Senator Joe McPherson of Rapides Parish, the weir accesses Saline Lake, Larto Lake and the adjoining waters once again to the Black River. Fishermen are now experiencing a return of fish productivity which is projected by all the experts to reach the heights once enjoyed on the Larto-Saline Aquatic Complex. McPherson attests to the fishing success of earlier days: "Fishing is my first love. I grew up with a camp at Larto Lake. I was able to fish and enjoy the complex when it was in its heyday."

Before the alterations made by water control programs, the Larto-Saline wetlands were part of a system of many different shaped and sized lakes connected by an intricate maze of rivers and bayous and called the Red River backwater system. In central Louisiana, very near the confluence of the three giants, the Mississippi, the Red and the Black-Ouachita rivers, the original richness of this major floodplain can not be overstated. The Red River backwater system by definition was composed of 200,000 acres of hardwood bottomlands in LaSalle, Catahoula, Avoyelles and Rapides parishes that were inundated every spring by overflow waters.

The replenishment to fisheries by the overflow was fantastic. Backwater systems are known to be the most productive of all freshwater fisheries. As determined by LDWF fish biologist Victor Lambou in a 1959 study, backwater lakes in Louisiana produce an average of 400 pounds of fish per acre and as high as 650 pounds. Additionally, he found that the fish population in the dynamic Red River system was "rapidly expanding" at that time.

It's the seasonal fluctuation itself of the water level that provides such tremendous benefits to fish populations. Flooding annually fertilizes the waters. "The sediments carried by the major rivers in Louisiana are rich in the basic elements essential to the subsistance of plant and animal life," Lambou explained. Also backwater provides many thousands of acres for spawning. With abundant food sources fish need not compete for sustenance. Adult fish and fry grow rapidly in number and size. Inland lakes are repopulated.

In response to the first dam proposal, the Louisiana Department of Wildlife and Fisheries conducted an intensive survey of the area in 1954. The results included impressive figures that reflected the fishing activity of anglers and the success of launches and associated businesses. The report also illustrated the importance of commercial fishing to this semi-wilderness area.

Harvest estimates of sport fish (black bass, crappie, sunfish, and white bass) for the year totaled at 2,833,000 pounds. The system provided relaxation and diversion to many citizens, with over 550,000 recreational fishing trips.

Sport fishing, of course, was an industry in itself. Using calculations designed by the U.S. Fish and Wildlife Service, LDWF arrived at an estimate of $5,015,671 spent by fishermen annually on their sport. In summarizing the recreational value of these backwater swamps, the LDWF '54 survey stated: "Hunting and fishing far exceed any other recreational facility in this region. It is enjoyed in its most superior form by countless thousands of people."

The commercial fish harvest of buffalo, drum, catfish and gar totaled at 3,435,335 pounds valued at $1,031,011 using the average price per pound. The alluvial floodplain was prime fish habitat, an outstanding recreation outlet and an economic cross beam in the structure of communities in nearby towns such as Jena, Jonesville, Harrisonburg and Marksville.

The productivity of the basin, particularly of the fisheries, was disrupted when this complex hydrological regime was tampered with. In the '60s federally authorized drainage programs saw to the efficient reduction of water levels. The aim was stable lows year-round. Half of the 200,000 acres over time was reclaimed for agriculture. Levees impounded farm lands. Water control structures blocked the natural flow of streams

Extreme muddiness in the Larto-Saline Complex drastically reduced fish life there for many years.

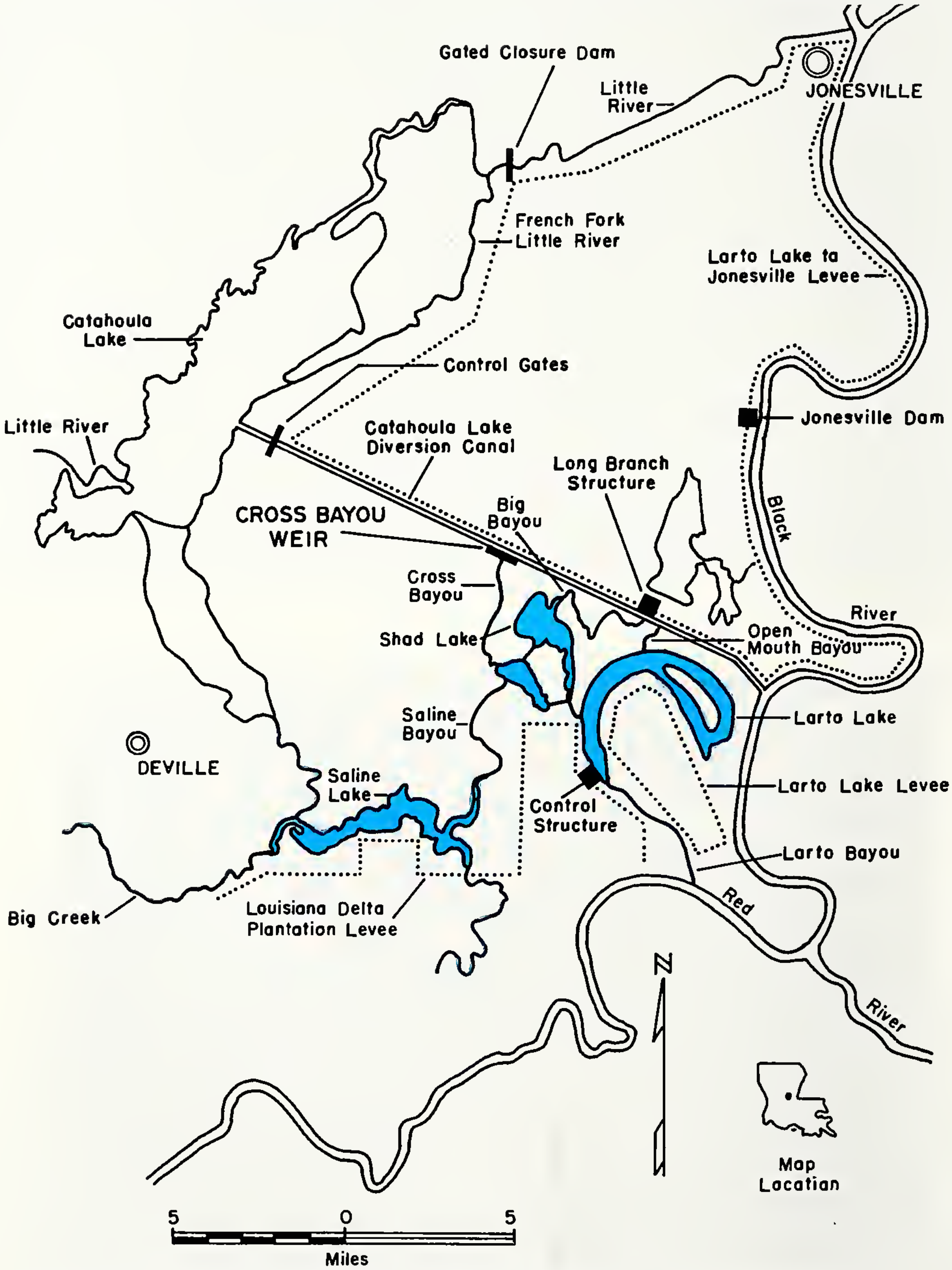
within the interlacing network. Consequently, fishing camps were abandoned. Sportsmen were forced to go elsewhere. Assuredly, flood control and agriculture are issues for Louisiana citizens, but prioritizing these drastically compromised the equally important fish and wildlife values. As a later report by the U.S. Fish and Wildlife Service verified: "Extensive hydrologic and land use modifications stemming from construction of federally funded navigation systems, flood control works and diversion canals have directly resulted in a substantial decline in fishery production and the recreation it supported."

In the early '70s the spoil bank of the Catahoula Lake Diversion Canal (see map) was raised to a level that largely prohibited the flow of the Black River into the 18,200 acres of remaining wetlands, the Larto-Salin Complex. Without the high quality waters to effectively block flooding from the turbid Red River, heavy siltation infused the lakes. The last holdout for fisheries in what was once the grand Red River wetlands was now choking to death.

Sportsmen were perhaps the first to register the problem. Fishermen i citizen groups like the Rapides Wildlife Association soon became involved with the effort to restore th state fisheries. In the late '70s Joe McPherson, then a marine dealer with outlets in the area, became a spokesperson for the organization His involvement brought him into contact with Arthur Williams, programs manager of the Louisiana Department of Wildlife, and Fisheries' work at the complex and Mike Ewing, project coordinator. The extent of the impact that the turbid Red River had on the lakes alarmed them all.

Whereas in 1954, for example, there had been 242,970 recreational fishing trips, 67 pounds of game fish harvested per acre and an annual total of 1,215,000 pounds, by the late '70s the number of annual trips was down to 10,000 and the pounds of game fish harvested per acre averaged at only 18.9. Even though the standing crop, or typical mix of fish in low water, was changing from the customary backwater population to one of an unusually high percentage of commercial fish, the commercial fishermen were also suffering. Whereas in 1954 fishermen sold 110 pounds of fish per acre with an annual worth of $600,000, by the mid-'70s the average per acre was at 19.4 pounds with a selling price of only $60,583.

For some time Williams and the LDWF administration had realized the need to access the Larto-Saline Complex again to its all important original source. Exceptionally heavy flooding in three years over a fifteen year period had forced the Black River down its primary courses to Saline Lake and Larto Lake. LDWF



Water quality in the Larto-Saline Aquatic Complex (in color) has been restored. The Cross Bayou Weir (center) once again accesses the complex to the clear waters of its original source–the Black River.

Heavy boat traffic, refurbished camps and increased fishing and camping activity are all evidence of the restoration of fish productivity on Saline Lake.

took special note of the fact that these were the only occassions from 1971-1985 when the fish population topped 200 pounds per acre.

The weir at Cross Bayou on the Catahoula Lake Diversion Canal was to be the first Louisiana Department of Wildlife and Fisheries project funded by the Wallop-Breaux Act. Co-authored by Louisiana Senator John Breaux, this federal legislation afforded a much needed increase in monies available for fisheries restoration programs. But in order to qualify for this federal money (to cover 75% of the project), the state was going to have to put up 25% in "matching funds." The "match" could take many forms, one being the value of work already completed at Larto-Saline. Continuing his commitment to restore the fishing hole he had grown up on, the now Senator McPherson coordinated the efforts of LDWF, the Tensas Parish Levee Board, the Louisiana Department of Transportation and Development and the National Guard to complete the "match" job. With a state "match" in place in 1982, LDWF was then eligible for Wallop-Breaux money for the Cross Bayou Weir. In the fall of 1986 the weir was completed. "What we have done," Williams explained,"is provide an opening from the Catahoula Lake Diversion Canal so that the Black River floods the complex BEFORE the Red River can."

Anticipating the spring of 1987, Ernest Donaldson had applied hammer, nails and elbow grease until his bait shop was once again ready for business. Come spring, Ernest was not disappointed. "The water had cleared up immediately," Williams reported. "People started moving back, cleaning up camps. They have been catching fish for the first time in twenty-five years. The economy is already changing."

The restoration of these precious few backwater lakes means a higher quality of life for the citizens of at least the four parish area. A very fine fisheries indeed has been reclaimed for the state–and for the communities accessing this grandchild of such a massive backwater system.

Conservationotes

Governor Edwin Edwards signs legislation expanding the Marsh Island and Rockefeller refuge trust funds. (L. to R.) Sen. Armand Brinkhaus, Madeline Spitaleri–Asst. to the President of the Russell Sage Foundation, Rep. Clyde Kimble, Gov. Edwards, Wildlife and Fisheries Secretary J. Burton Angelle Sr., Sen. Cecil Pecard, and Fur and Refuge Division Chief Johnnie Tarver.

Refuge Trusts Expanded

The recent session of the Louisiana Legislature produced a bill, signed by Governor Edwards in August, which will enhance the financial protection base for two of the state's vital wildlife refuges.

The bill allows the Department of Wildlife and Fisheries to increase the trust fund ceiling for both the Russel Sage-Marsh Island Refuge in Iberia Parish and the Rockefeller Refuge in Vermilion and Cameron parishes.

The trusts are funded with oil and gas royalties produced by mineral leases on the respective refuges. In future years, as the oil and gas resources are depleted, the interest generated by the trust funds will be available to continue the maintenance and operation of the refuges.

Under the new legislation, the trust for the Russell Sage-Marsh Island Refuge will be increased from five million to 10 million dollars and the fund for the Rockfeller Refuge will be expanded from 20 to 30 million dollars.

New Rules on Specks and Reds

Louisiana's fishermen are reminded tha tighter regulations governing speckle trout and redfish will go into effect Sept.

J. Burton Angelle Sr., secretary of Wild life and Fisheries, said that both commer cial and recreational fishermen ar affected by the new rules. He empha sized that cooperation by the fishing pub lic is necessary to relieve stress on th two species, and to insure the continued enjoyment of these resources by as man people as possible.

Angelle said that under the amended regulations:

1. A minimum mesh size of 1¾ inches bar by 3½ inches stretched is established for seines, trammel nets and gill nets used in saltwater areas.

2. Total length of fish is defined as the longest measurable distance from the tip of the fish's nose to the tip of its tail. Also all saltwater finfish must have the head and tail intact until brought ashore.

3. Revised size limits and commercia quotas are established. (See chart.)

The changes were embodied in House Bills 705, 698 and 692, enacted by the 1987 Legislature. The bills were part of a package recommended by Wildlife and Fisheries after coastwide research indicated that the resource was being stressed by too many fish being harvested, fish were being harvested when too small, and not enough red drum were being allowed to move back offshore to become spawners (an escapement level of 20 percent is the current goal).

SIZE LIMITS

	Speckled Trout	Redfish
Commercial	14 inches minimum total length	18 inches minimum total length. No more than two fish over 30 inches total length.
Recreational	12 inches minimum total length	14 inches minimum total length, 1987. 15 inches minimum total length, 1988. 16 inches minimum total length, 1989 and thereafter No more than two fish over 30 inches total length.

QUOTAS

	Speckled Trout	Redfish
Commercial	1 million pounds in 1987, adjustable thereafter.	1.7 million pounds in 1987, adjustable thereafter
Recreational	50 per person per day redfish and speckled trout combined (existing law).	

A Louisiana Wildflowers Portfolio
Published by Louisiana Department of Wildlife and Fisheries

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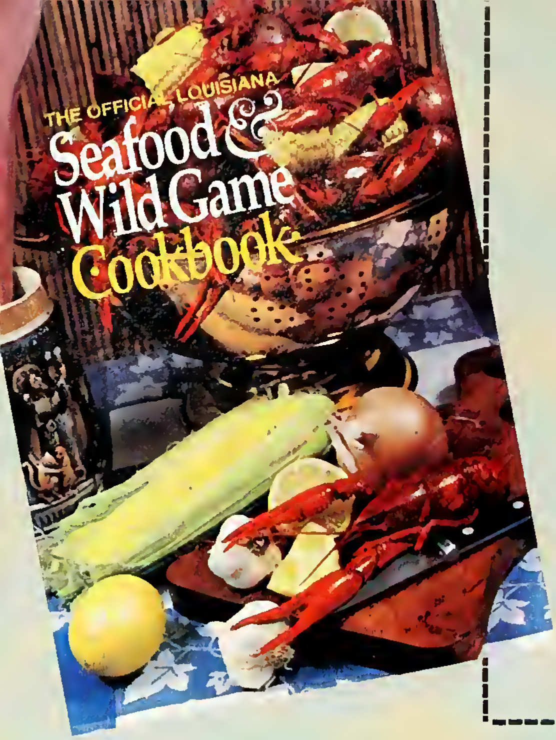

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Priced at only $12, the cookbook is a prized reference for sportsmen and discriminating cooks and features mouthwatering seafood and wild game meals as well as outstanding sections on appetizers and beverages, pies, cakes and desserts breads and more.

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Bayou Kitchen

by Wayne Miller

Veal Cordon Bleu with Mushroom Sauce

8 thin slices ham
8 veal cutlets, pounded thin
2 tablespoons grated Romano cheese
2 tablespoons grated Parmesan cheese
All purpose flour
1 egg beaten
1 cup bread crumbs
3 tablespoons butter
1/3 cup chopped shallot
1/4 cup chopped green bell pepper
2 garlic cloves, minced
1 1/2 cups sliced fresh mushrooms
1/4 teaspoon cracked pepper
1/2 cup milk
1 cup mushroom soup
2 tablespoons dry Marsala
Chopped fresh parsley

Lay 2 slices ham on each of 4 veal cutlets. Sprinkle generously with Romano and Parmesan cheeses. Top with remaining veal and press edges together tightly to seal. Dredge lightly in flour. Dip in egg, then roll in seasoned breadcrumbs.

Melt butter in 10-inch skillet over medium-high heat. Add veal and sauté until golden, turning once. Remove from pan and keep warm. Add shallot, green pepper and garlic to skillet and sauté until almost tender. Stir in mushrooms and cracked pepper. Reduce heat, return veal to skillet and simmer 2 minutes to heat through, turning once.

Meanwhile, combine mushroom soup and milk in small saucepan and bring just to boiling point, stirring frequently. Remove from heat and stir in Marsala. Add to skillet and continue simmering until sauce reaches desired consistency. Transfer veal to warmed serving platter, spoon sauce over top of meat and garnish with parsley. Serves 4.

Orange-Filled Chocolate Cups

1 1/4 cups semi-sweet chocolate pieces
1/4 cup margarine
1 envelope unflavored gelatin
1/2 cup cold water
1 (8-ounce) package cream cheese, softened
1/4 cup sugar
1/2 cup unsweetened pasteurized orange juice
2 cups whipped cream

Melt chocolate pieces with margarine over low heat, stirring until smooth. Spoon approximately 1 tablespoon mixture into each of 12 paper-lined muffin cups. With back of spoon, spread mixture evenly up sides of cups; chill one hour.

Soften gelatin in water; stir over low heat until dissolved. Combine cream cheese and sugar, mixing at medium speed on electric mixer until well-blended. Gradually add gelatin and juice, mixing until blended. Chill until thickened but not set. Beat until light and fluffy; fold in whipped cream. Carefully remove chocolate cups from paper liners. Fill each cup with approximately one-fourth cup cream cheese mixture. Chill. Serves 12.